



**Five Year Review Report
For
Saco Municipal Landfill Superfund Site
Saco, Maine**

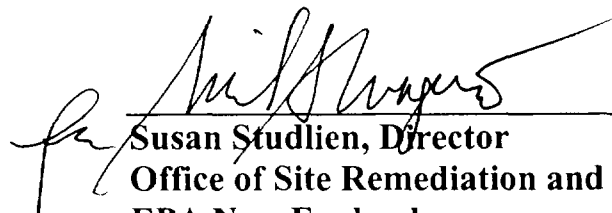
September 2005

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FIVE YEAR REVIEW REPORT - SACO MUNICIPAL LANDFILL SUPERFUND SITE
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Saco Municipal Landfill Superfund Site

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Attachment 1 Site Location Map
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Executive Summary

The cleanup actions at the Saco Municipal Landfill Superfund Site in Saco, Maine included the placement of a cap over the landfill, installation of passive gas venting wells, and monitored natural attenuation of the contaminated groundwater. The Site achieved construction completion in September 2000.

This five-year review documents that the cleanup actions remain protective of public health and the environment. The immediate threats at the Site have been addressed and the remedy will achieve long-term protection when groundwater cleanup goals are met.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Saco Municipal Landfill Superfund Site		
EPA ID: MED980504393		
Region: 1	State: Maine	City/County: Saco/York
SITE STATUS		
NPL status: Final		
Remediation status: Construction Complete with long-term operation, maintenance, and monitoring		
Multiple Operable Units (OUs)? No One Remedial Action OU and one NTCRA		
Construction Completion Date: 09/29/2000		
Has site been put into reuse? Partial		
REVIEW STATUS		
Lead agency: EPA		
Author name: Edward Hathaway		
Author title: Remedial Project Manager	Author Affiliation: EPA New England	
Review Period: 12/23/2004 to 08/31/2005		
Date of site inspection: 05/16/2005		
Type of review: Post-SARA		
Review number: 1		
Triggering action: ROD and PCOR		
Triggering Action Date: 09/29/2000		
Due Date for Five Year Review: 9/29/2005		

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Five-Year Review Summary Form

Issues:

No major issues were identified as a result of the five-year review.

Recommendations and Follow-Up Actions:

Continue monitoring program.

Protective Statements:

All immediate threats at the Site have been addressed, and the remedy is expected to be protective of human health and the environment as a result of the institutional controls, alternative water supply, and the eventual restoration of the groundwater to cleanup levels. The remedy is considered to be protective of human health and the environment in the short-term and long-term. Short-term protectiveness is achieved because:

- There is no current exposure of Site related waste to humans or the environment at levels that would represent a health concern.
- The landfill cover system prevents exposure to the waste material and contaminants with the landfill.
- The public water line has eliminated groundwater use within the area impacted by the landfill.
- The land use restriction prevents any use of the land that would result in an exposure to hazardous substances, pollutants, or contaminants.

Long-term protectiveness will be accomplished through continued performance of operation, maintenance, and monitoring activities along with the eventual restoration of the groundwater. Due to a change in the acceptable level for arsenic in groundwater, a reduction in the cleanup level for arsenic will be necessary prior to the certification that long-term protectiveness has been achieved.

Long-Term Protectiveness:

Long-term protectiveness of the remedial action will be verified through period inspections and long-term monitoring of the contaminated groundwater. The data over the past five years indicates that the groundwater plume has not expanded.

Other Comments:

None

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1.0 Introduction

A five-year review was conducted of the remedial actions selected for the Saco Municipal Landfill, in Saco, Maine. The purpose of the five-year review is to determine whether the remedy being implemented at the Site remains protective of human health and the environment. The methods, findings, and conclusions of the five-year review are documented in this Five-Year Review Report. In addition, this report presents issues identified during the review and provides recommendations to address them.

This Five-Year Review Report was prepared pursuant to CERCLA § 121 and the National Contingency Plan. CERCLA § 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that the action is appropriate at such site in accordance with section [104] or [106], the president shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews and any actions taken as a result of such reviews.

The Agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR § 300.430 (f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the first five-year review for the Site. The triggering action for this statutory review is the signing of the Record of Decision and Preliminary Closeout Report in September 2000. The five-year review is required due to the fact that contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

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2.0 SITE CHRONOLOGY

TABLE 1

Date	Event
1963-1989	Saco Municipal Landfill operates as a municipal solid waste and industrial waste landfill.
1975	Water line installed to serve adjacent residents
1976	Landfill Area 1 closed and clay cap was installed, clay cap was repaired in 1985
1985	Landfill Area 2 closed with clay cap and leachate recirculation system
1989	Landfill Area 3 and Landfill Area 4 stop receiving waste
1990	Saco Municipal Landfill placed on the National Priorities List
1995	Administrative Order on Consent signed for performance of Remedial Investigation and Feasibility Study
1996	EPA signs Action Memorandum to initiate a Non-Time-Critical Removal Action (NTCRA) to cap Landfill Area 3 and Landfill Area 4
1997-1998	Construction of landfill cap for Landfill Area 3 and Landfill Area 4
2000	EPA signs Record of Decision for Saco Municipal Landfill selecting monitored natural attenuation as the long-term remedial action
2000	EPA determines that the Saco Municipal Landfill is construction complete
2000-2005	Annual monitoring and maintenance activities continue
2005	First Five Year Review

3.0 BACKGROUND

3.1 Physical Characteristics

The Saco Municipal Landfill Superfund Site is located on Foss Road, York County, Maine. The Site occupies 90 acres, of which four separate landfill areas (Areas 1, 2, 3, and 4) comprise approximately 30 acres. The City of Saco owns the Site, and operated the four-landfill areas from 1963 until 1988. In 1990, the U.S. EPA placed the Site on the National Priorities List (NPL).

Area 1 is approximately 10 acres in size and was the original municipal landfill. It operated as an open dump beginning in the early 1960s. Material reportedly disposed in this landfill included, among other things, municipal waste and sludge from the Factory Island Treatment Facility. This area was closed in 1974, regraded, and covered with a clay cap in 1976. An additional 18 inches of compacted clay with six inches of seeded topsoil was placed on the landfill in 1985.

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Area 2 is approximately 6 acres in size. This landfill area began operation in 1974, and accepted industrial waste, brush, and construction demolition debris. In 1981, the MEDEP issued an Administrative Consent Agreement and Enforcement Order to the City of Saco for closure of this site. Closure of this area was completed in 1985, and included 18 to 20 inch clay cover with four inches of top soil, and a clay slurry wall along the northern edge of the landfill, including a leachate collecting and recirculation system. According to the ROD, the closure of Areas 1 and 2 addressed the principal threats at the Site posed by those areas.

Landfill Area 3, approximately 1 acre in size, was developed around 1985 as an industrial waste area for several local industries. Landfill Area 4 comprises 8 acres. This landfill operated between 1974 and 1989, and accepted primarily municipal waste. Sludge from the tannery wastewater treatment system was reportedly disposed of in Area 4.

3.2 Land and Resource Use

The Site is bordered by wooded areas in all directions except for an open sand and gravel pit to the southwest of Area 4. Private residences are located to the north and east of the Site. Sandy Brook flows through the Site, with Landfill Areas 1 and 2 on the east and Areas 3 and 4 on the west side of the brook. A large housing development and elementary school are located within 0.5 miles downgradient of the Site.

3.3 History of Contamination

The early environmental investigations identified groundwater and surface water quality problems thought to be caused by leachate outbreaks from the landfills. In response to suspected contamination in nearby shallow wells, the municipal water supply was extended to residents along Buxton Road (Route 112) in 1975.

In 1995, City of Saco entered into an Administrative Order with the EPA to conduct an RI/FS at the Site. The Phase IA RI Report concluded that Landfill Areas 3 and 4 were causing reducing conditions that mobilized the naturally occurring arsenic and manganese into the groundwater beneath the Site, resulting in the discharge of contaminants to a wetland seep area and into the surface water and sediments of Sandy Brook.

To address the source of contamination for the contaminated groundwater, EPA signed an Action Memorandum in 1996 to initiate a non-time-critical removal action (NTCRA) at the Site. The purpose of the NTCRA was to consolidate and cap contaminated soils, sediments, and wastes within Landfill Areas 3 and 4. The NTCRA was completed in 1999. The NTCRA consisted of the following: excavation of soils/sediments of several groundwater seeps that contained elevated levels of arsenic and placement of these materials beneath the cap for Landfill Areas 3 and 4; excavation of several pockets of solid waste (approximately 5,000 cubic yards) outside the footprint of the existing landfills and consolidation of this solid waste into Landfill Areas 3 and 4; design and construction of a multi-barrier landfill cap over Landfill Areas 3 and 4; development of land use restrictions that will restrict future use of the Site; and creation of a new on-site wetlands area southeast of Landfill Area 4 to compensate for the wetlands impacted by the cap construction.

The RI and Risk Assessments concluded that the groundwater impacted by Landfill Areas 3 and 4 was the only pathway that required action after completion of the NTCRA

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3.4 Initial Response

The City of Saco completed the closure of Landfill 1 and Landfill 2 under the oversight of the State of Maine. In addition, the municipal water supply was extended to residents along Buxton Road (Route 112) in 1975.

3.5 Basis for Taking Action

The baseline Human Health Risk Assessment revealed a potential threat to future residents based on the use of groundwater at the Site as drinking water. Additionally, the Ecological Risk Assessment identified a minimal ecological risk to benthic organisms which will be addressed through the alternatives addressing groundwater.

4.0 REMEDIAL ACTIONS

4.1 Remedy Selection

Two CERCLA cleanup actions have been implemented at the Site. The first cleanup action was a non-time critical removal action (NTCRA), which was described in a 1996 Action Memorandum. The NTCRA included: construction of a multi-layer landfill cap; passive gas venting system; and institutional controls to protect the cap. The second cleanup action was described in the September 2000 Record of Decision. The second action called for the natural attenuation of the groundwater, continued operation and maintenance of the NTCRA, and long-term monitoring of the Site as the future activities. The 2000 Record of Decision established the following remedial action objectives for the Site:

- Prevent the ingestion of groundwater containing contaminants that exceed Federal or State maximum contaminant levels (MCLs), non-zero maximum contaminant level goals (MCLGs), maximum enforcement guidelines (MEGs), or in their absence, an excess cancer risk of 1×10^{-6} (one in a million) or a hazard quotient of 1;
- Restore groundwater to meet Federal or State MCLs, MCLGs, MEGs, or in their absence, an excess cancer risk of 1×10^{-6} (one in a million) or a hazard quotient of 1; and
- Perform long-term monitoring of surface water, sediments, and groundwater to verify that the cleanup programs at the Site are protective to human health and the environment.

The primary expected outcome of the selected remedy is that groundwater will meet cleanup levels specified in the ROD at and beyond the point of compliance within approximately 60 to 100 years.

4.2 Remedy Implementation

The physical construction cleanup activities at the Site were implemented as part of the NTCRA. The NTCRA consisted of the following: excavation of soils/sediments of several groundwater seeps that contained elevated levels of arsenic and placement of these materials beneath the cap for Landfill Areas 3 and 4; excavation of several pockets of solid waste (approximately 5,000 cubic yards) outside the footprint of the existing landfills and consolidation of this solid waste into Landfill Areas 3 and 4; design and construction of a multi-barrier landfill cap over Landfill Areas 3 and 4; development of land use restrictions that will restrict future use of the Site; and creation of a new on-site wetlands

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area southeast of Landfill Area 4 to compensate for the wetlands impacted by the cap construction. Construction activities began in June 1997 and were completed in 1998.

EPA signed a Preliminary Closeout Report (PCOR) for the entire Site (NTCRA and Remedial Action) in September 2000 upon completion of the cap. The PCOR confirmed that no additional monitoring wells or other construction activities were necessary at the Site. Institutional Controls for the Site were completed prior to the ROD. Land and groundwater use has been restricted by the "Grant of Environmental Restrictions and Right of Access" (Environmental Restrictions) agreed to by the City, the USEPA, and the MEDEP. These Environmental Restrictions are considered necessary to ensure long-term protection of public health. The Environmental Restrictions include:

- No use that disturbs the integrity of any layers of the cap, or any other structures for maintaining the effectiveness of the Removal Action, whether in place now or put in place in the future;
- No groundwater use, including, but not limited to, use as a drinking water supply. No groundwater wells shall be installed within the Groundwater Restriction Parcel except for purposes of groundwater monitoring pursuant to a plan approved by the City, USEPA and MEDEP;
- No use of the water's of Sandy Brook within the Groundwater Restriction Parcel
- No residential development and no activity or use at the Site which adversely impacts the Removal Action (NTCRA), whether now or in the future, including, without limitation: (1) systems and areas to collect and/or contain groundwater, surface water runoff, or leachate; (2) systems or containment areas to excavate, dewater, store, treat, and/or dispose of soils and sediments; and (3) systems and studies to provide long-term environmental monitoring of groundwater, surface waters, and to ensure the long-term effectiveness of the Removal Action and its protectiveness of human health and the environment.

The City of Saco ensures that the Institutional Controls remain in effect.

4.3 Operation and Maintenance

The operation, maintenance, and monitoring activities are being implemented by the PRPs. Monitoring and maintenance reports are submitted to EPA and Maine Department of Environmental Protection for review. In addition, EPA has an oversight contractor perform site inspections and oversee the PRP activities.

The operation, maintenance, and monitoring activities focus on maintenance of the vegetative cover of the cap and repair of any erosion and collection and analysis of samples to monitor trends in groundwater concentrations.

5.0 PROGRESS SINCE LAST REVIEW

This is the first five-year review for the Site.

6.0 FIVE-YEAR REVIEW PROCESS

6.1 Administrative Components

EPA, the lead agency for this five-year review, notified Maine DEP and the PRPs in early 2004 that the five-year review would be completed. The Five-Year Review Team was led by Edward Hathaway of EPA, Remedial Project Manager, for the Saco Municipal Landfill Superfund Site, and included staff from EPA's oversight and five year review support contractor TRC Environmental Corporation. Iver Mcleod of the Maine DEP was as also part of the review team. The review components included:

- Community Involvement;
- Document Review;
- Data Review;
- Site Inspection;
- Local Interviews; and
- Five-Year Review Report Development and Review.

6.2 Community Involvement

EPA issued a fact sheet providing public notice of the five year review. The fact sheet described the five-year review process and how the community can contribute during the review process.

6.3 Document Review

The five-year review consisted of a review of relevant documents including O&M records and monitoring data. EPA reviewed the September 2002 ROD, the EPA oversight consultant Five-Year Review Technical Memorandum (August 2005), and the Five Year Review Long-Term Monitoring Report (September 2005) that was submitted by the consultant for the City of Saco. Applicable or relevant and appropriate requirements (ARARs) in effect at the time of the ROD and those that that have been changed since the ROD were also reviewed

6.4 Data Review

Environmental monitoring data are available for groundwater, surface water and sediments. The following sections provide a summary of findings for each media.

6.4.1 Groundwater Monitoring Program

EPA reviewed the available long-term monitoring ground water data and compared the results to the Interim Cleanup Levels for arsenic, manganese, and benzene, as well as applicable federal and state criteria for other detected constituents, to assess the effectiveness of the natural attenuation remedy. During this first 5-year review period, groundwater quality has been monitored in approximately 24 monitoring wells. The analytical program is summarized in Table 2-3 of the Long-Term Monitoring Plan (Woodard & Curran, 2001).

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Groundwater Elevations

A review of the groundwater elevations and contours provided in the Annual Long-Term Reports shows groundwater flow generally consistent with that described in the ROD.

Contaminant Trends in Groundwater

The evaluation of the data collected as a result of the annual monitoring program reveals no clear trends in contaminant concentration. The extent of contamination remains unchanged from the area defined by the Record of Decision. While the concentrations of the major contaminants of concern demonstrate some annual variability, a statistical analysis performed by the EPA's oversight consultant as well as the PRP's consultant did not reveal any significant trends. Table 2 shows the number of wells above cleanup criteria for each year since the Record of Decision.

Table 2. Number of Groundwater Samples Exceeding Interim Cleanup Levels for Saco Landfill

Parameter	Jun-01	Nov-01	Jun-02	Nov-02	Jun-03	Nov-03	Jun-04	Nov-04
Arsenic (Compared to Interim Cleanup Level of 50 µg/L)	11	12	12	11	12	12	11	12
Arsenic (Compared to Maine MEG of 10 µg/L)	19	23	20	18	15	13	15	17
Benzene (Compared to MCL and Interim Level of 5 µg/L)	0	2	0	1	0	0	0	2
Manganese (Compared to Interim Cleanup Level of 200 µg/L)	17	15	15	17	15	15	14	14
Manganese (Compared to Maine MEG of 500 µg/L)	12	11	12	13	13	13	14	14

6.4.2 Surface Water

EPA reviewed the surface water data collected from 2001 through 2004 in comparison to applicable criteria to evaluate the effectiveness of the Remedy. As specified in the ROD, the Cleanup Levels for surface water are Federal and State water quality criteria. The monitoring conducted in 2001-2004 consisted of sampling and analysis of surface water samples at nine locations. These samples were co-located with sediment samples collected at the same time. While the concentrations of some metals remain above chronic surface quality criterion, the long term monitoring maximum concentrations are mostly below the maximum concentration cited in the ROD. The highest metals

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concentrations have been detected downstream of Areas 3 and 4 in samples collected between the primary seep and the confluence of Sandy and Big Ledge Brooks. All arsenic concentrations in surface water were below the applicable ambient water quality criteria of 190 µg/L.

6.4.3 Sediment

The ROD requires that stream sediments be monitored to verify that contaminant concentrations do not exceed levels considered to be safe to aquatic organisms. Although no cleanup levels were established for sediment, the ecological risk assessment suggested that moderate reduction in growth and reproduction may occur with sediment arsenic concentrations greater than 106 mg/kg. Therefore, the ROD states that EPA will reevaluate the potential environmental impacts of Site contamination if individual sample locations reveal arsenic levels above 200 mg/kg in isolated locations, or a more extensive area if arsenic levels are above 100 mg/kg. Concentrations have generally remained within these levels. Concentrations above 200 mg/kg were detected during one sampling event, followup sampling indicated that the aerial extent was very limited.

6.5 Site Inspection

Summary of Current Site Inspection

A site inspection was on May 16, 2005. The site inspection is summarized as follows:

- The surfaces of the landfill cap were in good condition with no signs of erosion, holes, cracks or bulging. Some small woody vegetation was observed at the edge of the cap on the west side of the landfill. This vegetation should be removed before it becomes established.
- The slope benches and other drainage ditches were in good condition with no signs of erosion, undermining or bypass.
- The two gabion-lined downcomers, or letdown channels, on the cap were in good condition with no evident material degradation, erosion, undercutting, obstructions or vegetative growth.
- The cover penetrations through the landfill cap (20 passive gas vents) were in good condition. The gas vents were tilting down hill, however, the tilt did not appear to be impacting the effectiveness of the vents.
- No obstructions were observed at the ends of the drainage layer outlet pipes. The rip rap layer along the edge of the cover system appeared to be in place and did not appear to be clogged.
- The sedimentation basin was in good condition and appeared to be functioning properly.
- The perimeter access roads of the landfill were in good condition.
- The wetland compensation area appears to be functioning as designed.

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Past Inspections

Semi-annual inspections of the Saco Municipal Landfill have been conducted by the PRPs, EPA (EPA's oversight contractor TRC Environmental Corporation), and Maine DEP since 2000. There have been no major issues regarding the operation and maintenance of the landfill remedial system. Operations, maintenance, and monitoring have adequately established the landfill cap integrity.

6.6 Interviews

The facility owner and maintenance personnel were interviewed as part of the five-year review process. There were no major concerns identified.

7.0 TECHNICAL ASSESSMENT

7.1 Question A: Is the Remedy Functioning as Intended by the Decision Documents?

Remedial Action Performance

Evidence to indicate that the remedy is performing as intended includes the following:

- The landfill cap remains intact to isolate and prevent the direct contact with the solid waste contained within the landfill.
- The groundwater contaminant plume has not expanded beyond the area defined by the ROD.
- Groundwater, surface water, and sediment concentrations remain within the range of concentrations identified in the ROD.

System Operations/O&M

Operation and maintenance of the cap continues to be effective. Issues identified during the semi-annual site inspections by TRC on behalf of the EPA are regularly addressed or continue to be monitored as recommended. The monitoring well network appears to be adequate to define the current extent of the groundwater plume and monitor the progress of the cleanup.

Opportunities for Optimization

The five-year review did not identify any areas where changes in the operating procedures would further optimize the cleanup actions.

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Early Indicators of Potential Issues

While the physical components of the remedy are in good condition and appear to be functioning as intended, there is a concern that the groundwater may not achieve the cleanup levels in the time period identified in the ROD. The lack of a trend in groundwater or surface water concentrations suggests that the natural attenuation is proceeding more slowly than anticipated. The long-term monitoring program and future five year reviews will better define this issue.

Implementation of Institutional Controls and Other Measures

A restrictive covenant has also been placed on the property to prevent the use of the contaminated groundwater. The main access is fenced. No activities were observed that would have violated the institutional controls.

Is There a Need to Update any of the Monitoring Plans used to Evaluate the Performance of the Remedy?

A review of the sampling and analytical procedures was conducted to determine the need to update any of the monitoring plans used to evaluate the performance of the remedy. No changes to the monitoring plans is necessary at this time.

7.2 Question B: Are the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Used at the Time of the Remedy Selection Still Valid?

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure assumptions used to develop the Human Health Risk Assessment included:

- (1) ingestion of groundwater;
- (2) direct contact with leachate; and
- (3) inhalation of the contaminants from the soil, groundwater, surface water, and leachate by workers or other individuals.

No individuals are currently exposed to contaminated groundwater. With the installation of the alternate water supply and completion of the landfill cap, exposure assumptions 1-3 above have been addressed. The exposure pathways used at the time of remedy selection remain the only pathways of past, current, or future concern regarding the Site. There is no basis to develop additional exposure pathways or risk evaluations.

While there have been some changes to the toxicity data used to develop the human health risk assessment, the cleanup levels are currently at the MCLs that were in place at the time of the ROD. The MCLs for arsenic has changed since the signing of the ROD. EPA will adjust the cleanup level for arsenic at some time in the future, prior to certifying that cleanup levels have been achieved. Since there is no current exposure to the Site impacted groundwater, the short-term protectiveness of cleanup has not changed. It should be noted that the naturally occurring levels of arsenic in the bedrock in the vicinity of the Site has been shown to exceed the MCL for arsenic.

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Changes in Standards and To Be Considered Requirements

Applicable or relevant and appropriate requirements (ARARs) were evaluated as part of the 1994 Record of Decision. There have been two changes to ARAR or To Be Considered requirements that were assessed in evaluating the protectiveness of the remedy. The cleanup level for arsenic was identified as 50 µg/l in the ROD. Subsequent to the ROD, EPA has reduced the federal MCL for arsenic to 10 µg/l. As described above, this change does not impact the short-term effectiveness of the remedy. A reduction in the cleanup level (after consideration for background) may be necessary to certify that the long-term protectiveness has been achieved. The cover system is complying with all current regulations and guidance.

7.3 Question C: Has Any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

From all of the activities conducted as part of this five-year review, no new information has come to light which would call into question the effectiveness of the remedy. No new human or ecological receptors have been identified at this time. No evidence of significant damage due to natural disasters or lack of maintenance was noted during the site inspection. The cleanup level for arsenic will need to be lowered to the level of the new MCL prior to completion of the cleanup action, however, the groundwater is many years away from achieving compliance with cleanup levels. The new arsenic MCL may impact the time period required for cleanup, but it does not effect the protectiveness of the remedy since there is no current use of the groundwater.

8.0 ISSUES

The only issue to be addressed involves the revision of the cleanup level for arsenic to reflect the new MCL. EPA and Maine DEP will continue to perform periodic inspections to indicate areas where maintenance may be necessary. The new arsenic MCL will be considered when evaluating the long-term cleanup of the groundwater.

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

The recommendation and follow-up actions involve the continued oversight of the work being performed by the PRPs to assure compliance with the Consent Decree and Record of Decision requirements.

10.0 PROTECTIVENESS STATEMENT(S)

The remedy is considered to be protective of human health and the environment in the short-term and long-term. Short-term protectiveness is achieved because:

- There is no current exposure of Site related waste to humans or the environment at levels that would represent a health concern.
- The landfill cover system prevents exposure to the waste material and contaminants with the landfill.
- The public water line has eliminated groundwater use within the area impacted by the landfill.
- The land use restriction prevents any use of the land that would result in an exposure to hazardous substances, pollutants, or contaminants.

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Long-term protectiveness will be accomplished through continued performance of operation, maintenance, and monitoring activities along with the eventual restoration of the groundwater. A reduction in the cleanup level for arsenic will be necessary prior to the certification that long-term protectiveness has been achieved.

11.0 NEXT REVIEW

The next five-year review will be conducted by September 2010.